4.0 FUTURE LAND USE ELEMENT

(1) DATA REQUIREMENTS

a) University Facilities within the State

Florida International University consists of two main campuses; Modesto A. Maidique and Biscayne Bay Campus. Both are located in southeast Florida, in the central and northeastern parts of Miami-Dade County, respectively and are part of the greater Miami metropolitan area. Modesto A. Maidique includes the Engineering Center (EC). The University also has a museum facility in Miami Beach, known as The Wolfsonian. It consists of two buildings; the Museum Headquarters, and The Annex Storage facility (See Figure 4.1: Campus Locations Map).

b) University Facilities within the Host Community

MODESTO A. MAIDIQUE

The principle and largest campus, Modesto A. Maidique, lies in the east-central section of Miami-Dade County at the southeast quadrant of the intersection of the Homestead Extension of Florida's Turnpike (S.R. 821) and Tamiami Trail (SW 8th Street/U.S. 41). This campus, comprised of approximately 342.2 acres, is surrounded by the sprawling suburban development pattern of west Miami. Surrounding land uses are characterized by low-density single family residential development in a rectilinear grid, with strip commercial, multifamily homes and apartments lining major arterial roads and creating ”hard” edges to the campus. Similarly, the Florida Turnpike to the west and the Tamiami Trail/Tamiami canal corridor to the north act as major barriers, restricting direct vehicular access and minimizing visual or other land use conflicts along these edges. Modesto A. Maidique shares the land of the former Tamiami Airport site with Tamiami Park and the Miami-Dade County Fair and Exposition, the southern boundary of the campus is considered a "soft" edge. FIU shares the uses of FIU Community Stadium, Wertheim Performing Arts Center sand surface parking lots along the southern perimeter of Modesto A. Maidique with other entities.

The Carlos Finlay Elementary School and the NOAA National Hurricane Center located within the University campus are not under the jurisdiction or operation of the Florida Board of Education, Division of Colleges and Universities. The FIU Community Stadium and Wertheim Performing Arts Center are joint use facilities. FIU owns the facilities and shares the respective land with Tamiami Park. FIU currently uses Tamiami Park during many of its sports tournaments and swimming competitions.

BISCAYNE BAY CAMPUS

The Biscayne Bay Campus is located within the City of North Miami in northeast Miami-Dade County. The site is strategically located on a 195 acre parcel on

Biscayne Bay formerly designated as an international trade and exposition center in the 1950's and 1960's. Located to the southeast of the intersection of U.S. 1 (Dixie Highway) and State Road 826 (Sunny Isles Boulevard) the campus is surrounded by open space and public facilities, namely Oleta River State Recreation Area and the "Munisport" site owned by the City of North Miami.

ENGINEERING CENTER (EC)

The Engineering Center (EC) provides academic and administrative space for FIU. Located approximately one mile north of Modesto A. Maidique, at the northeast intersection of SW 107th Avenue and West Flagler Street, this 36 acre site is considered part of Modesto A. Maidique.

THE WOLFSONIAN

The Wolfsonian is a museum that provides education and research opportunities to the community. It is located in Miami Beach and consists of two buildings located on different sites the Museum Headquarters and the Annex Storage facility. The two sites comprise approximately 0.2 acres.

c) Student Enrollment Projections

Table 4.1 Projected Future FTE Student Enrollment by Campus

	2004-05	2006-07	2007-08	2008-09	2009-10	2010-11	2014-15
MODESTO A. MAIDIQUE							
Undergraduate	14,269	15,810	16,759	17,765	18,831	19,960	25,200
Graduate	2,476	2,867	3,039	3,221	3,415	3,619	4,569
BISCAYNE BAY CAMPUS							
Undergraduate	3,022	3,361	3,562	3,776	4,003	4,242	5,356
Graduate	301	347	368	390	414	439	553
BROWARD/PINES	234	262	278	295	312	331	418
Undergraduate	195	224	237	252	266	283	357
Graduate							
OTHER (1)							
Undergraduate	1,090	1,213	1,285	1,363	1,444	1,531	1,933
Graduate	210	243	257	272	289	306	387
TOTAL	21,587	24,327	25,785	27,334	28,974	30,711	38,773

Source: Office of Planning and Institutional Research

(1) Off campus and sponsored credit. Includes Online, Off-Campus, Sponsored Credit

With a total population of approximately 2,379,818[1] persons in 2005, Miami-Dade County remains Florida's most populous county with 14% of the total state population. Over the past decade population growth has remained high in part due to the continued, but unpredictable, influx of immigrants from Cuba, Nicaragua, Colombia, Haiti and Dominican Republic. However, it is important to recognize that the rate of growth for Miami Dade County is slower than the counties to the north. This factor may affect the University's recruitment and

[1] "Miami-Dade County Facts 2005

service strategies in the near future.

According to the FIU Strategic Plan, future enrollment will be impacted by some of the following conditions and trends:

Demographic:
- *Population Growth:* Miami Dade County is still growing, although at a slower rate. The projected population for 2010 is 2,517,154
- *Change in Population Characteristic*: During the next two decades there will be a shift in the population characteristics associated with the aging of the baby boomer generation, continued international immigration in the U.S and increasing diversity of the U.S population.

Economic:
- *The Economy*: Economic growth will be slower in Miami-Dade County. The forecasts for Miami Dade County's economy also suggested a continued decline in the role of tourism and a continued increase in the service sector.

Social:
- *Mega Driving Forces*: Information/communication technology, information/knowledge society and economy, globalization, economic development expectations for higher education, increased competition in higher education and increased consumerism and accountability.
- *Student Recruiting Base*: The Miami-Dade Public School System is and will continue to be a major source of students for FIU and the characteristics of MDPS graduates and their selection of institutions of higher education they attend will impact the future of FIU.

Political/legal:
- Changes in the governance system for higher education in Florida
- Competition for undergraduate students will increase within Florida's higher education system.

Physical environment:
- *Affordable Housing:* Affordable housing will continue limiting the University's ability to rely on external markets to supply housing for potential students
- *Transportation System*: The limited public transportation system and the increase in traffic congestion will continue to present access problems for students traveling to the FIU sites.

d) Property and Land Acquisition Program

(A legal description of FIU properties can be found on file at the Facilities Management office.)

MODESTO A. MAIDIQUE CAMPUS

During World War II, Miami-Dade County purchased a 640-acre parcel located some 11 miles west of the City of Miami limits for the development of an airport intended for student instruction and general (non-commercial carrier) aviation. The airport was built with three runways in 1947 and by 1958 there were 1,100 to 1,300 flight operations per day requiring the placement of a control tower, which was relocated from Miami International Airport and placed in service in 1959. By 1960, Tamiami Airport ranked as the third busiest in the nation, behind O'Hare and Miami International. This very high level of, mostly student pilot, flight activity coupled with conflicts with Miami International air traffic led to the closure of the airport and the construction of the New Tamiami Airport in Southwest Miami-Dade County. After its closure, 342.2 acres of the site were donated to the State of Florida for the construction of FIU. The remaining 300 acres were retained for development of Tamiami Park and the Miami-Dade County Fair and Exposition.

Since it opened its doors to the public, the name of the campus has changed several times. Below is a list of the various names:

- Tamiami Park
- South Campus
- University Park
- Modesto A. Maidique

BISCAYNE BAY CAMPUS

Biscayne Bay Campus was also part of a scheme to build an airport during World War II. In 1945, the 1,707-acre Graves Tract was purchased for the construction of a major metropolitan airport. The airport plans subsequently shifted to the Pan American Airways field for development of what is now Miami International Airport. A large portion of the Graves tract was sold in 1951 to the Interama Authority for the creation of the world's first permanent international trade and cultural exposition center. Clearing, dredging and filling of this environmentally sensitive site continued into the 1960's, but by the end of the decade the project was abandoned. The only remnant of the project, other than hundreds of acres of filled bayfront wetlands, is the original Trade Center facility that is now Hospitality Management at Biscayne Bay campus. The property was divided between the City of North Miami, Miami-Dade County for a regional park and the State of Florida for the creation of Oleta River State Recreation Area and for a north (Bay Vista) campus of FIU. In 1975, FIU opened the Biscayne Bay Campus, then named the “Bay Vista” Campus, and development proceeded rapidly over the next 18 years.

Since 1975, the name of the campus has changed several times. Below is the list with the various names:

- Bay Vista Campus
- North Miami Campus
- North Campus
- Biscayne Bay Campus

ENGINEERING CENTER (EC)

The Engineering Center (EC) is located on 36 acres approximately one mile from Modesto A. Maidique Campus. The site is located at the northeast intersection of West Flagler Street and SW 107th Avenue, accommodating engineering students and faculty. The campus facility resides in a 245,000 square foot building that includes research centers, teaching laboratories, faculty offices, study areas, computing facilities and research laboratories.

This facility has had several names over the years. Below is the list of the various names:

- Engineer and Applied Science
- The Engineer Center
- Engineer Center
- Engineering Center

THE WOLFSONIAN

The Wolfsonian was founded in 1986 to exhibit, document, and preserve the Mitchell Wolfson Jr. Collection. In 1997, The Wolfsonian became a division of Florida International University, following Mitchell Wolfson Jr.'s landmark donation of his collection to the State. This site consists of two buildings:

- The Museum Headquarters: Located at 1001 Washington Avenue, this facility houses the Wolfonian's auditorium and shop (1St floor), administrative offices (2nd and 4th floors), a library (3rd floor), small objects and paintings (4th floor), and exhibition galleries (5th-7th floors).

- The Wolfsonian Annex Storage Facility: This 28,000 square foot historic warehouse on Lenox Avenue contains a conservation lab and the remaining objects of the Wolfsonian collection.

e) Title Interests

The University is in the process of completing an inventory of title interests, including leases.

Note: Chapter 18 4.003 of the Florida Administrative Code was repealed.

f) Alternative (non-educational) Uses of the Leased Premises

The University has not considered any plans for alternative uses of leased premises.

g) Proximity of University Property to Other Significant Local, State or Federal Land or Water Resources

MODESTO A. MAIDIQUE

Modesto A. Maidique Campus is in close proximity to:

- Tamiami Park and Miami-Dade County Fair and Exposition (located immediately south of Modesto A. Maidique)
- Three canals (bordering Modesto A. Maidique, Tamiami Park and Miami-Dade County Fair and Exposition to the north, west and south)

BISCAYNE BAY CAMPUS

Biscayne Bay Campus is in close proximity to:

- Oleta River State Recreation Area (Borders the campus to the east and north. (This 1,048-acre park is one of Florida's significant urban water front parks. The campus shoreline has an unobstructed view to the state recreational area.)
- Oleta River Harbor (The shoreline makes up the southern boundary of the campus)
- Biscayne Bay Estuary and the Florida Intercoastal Waterway

ENGINEERING CENTER (EC)

The Engineering Center (EC) is located near:

- Womens Park (bordering the site to the east)
- Sweetwater Elementary School (located approximately two blocks south of the site)
- The City of Sweetwater City Hall Complex (within a mile south of the site)
- S.R. 836 Expressway (within a mile of the site to the north)

THE WOLFSONIAN

The Wolfsonian is located within a mile of:

- The Miami Beach City Hall Complex
- The Miami Beach Convention Center
- The Atlantic Ocean beaches and the Florida Intercoastal Waterway

h) University Property in Relation to an Aquatic Preserve or a Designated Area of Critical State Concern

MODESTO A. MAIDIQUE, ENGINEERING CENTER, AND THE WOLFSONIAN

According to FIU and other applicable agencies, Modesto A. Maidique, the Engineering Center (EC) and The Wolfsonian are not within an aquatic preserve nor are they designated or under consideration for designation as areas under critical state concern.

BISCAYNE BAY CAMPUS

Biscayne Bay Campus is located in an aquatic preserve and has a designated area of state concern. The following provides a description:

BISCAYNE BAY AQUATIC PRESERVE

Biscayne Bay and all natural waterways (including the Oleta River and the estuary at the north end of the Biscayne Bay Campus) tidally connect to Biscayne Bay and are designated as the Biscayne Bay Aquatic Preserve, a Miami-Dade County preserve. Biscayne Bay Campus is bordered to the north and east by Oleta River State Recreation Area and adjacent to Biscayne Bay along the southern edge of the campus. The most environmentally sensitive site on Biscayne Bay Campus consists of mangrove lined shores along Oleta River and Biscayne Bay. The mangrove management plan is a high priority and the Department of Environmental Resources Management prescribes maintenance standards. To compensate for the construction of an access road in a mangrove-dominated canal and mangrove trimming in front of Kovens Center, mangrove mitigation projects have been constructed near the impacted area and at the southwestern end of campus.

AREA OF STATE CONCERN: THE MUNISPORT LANDFILL

The Munisport Landfill is an inactive landfill site located in the City of North Miami, adjacent to Biscayne Bay Campus, the Oleta River Recreational Area and Biscayne Bay. Operations were halted in 1981 after evidence of leachates and contamination was discovered in the soil, sediments, ground water, and Biscayne Bay. The Munisport Landfill site was categorized as an indeterminate public health hazard. Though it posed no threat to human health, it did pose a significant threat to aquatic organisms in the adjacent wetlands. Based on these findings, EPA and the City of North Miami entered into a Consent Decree for the cleanup in 1992. Mitigation included groundwater remediation, wetland restoration, and landfill closure and capping. As a result of these actions, the site was removed from EPA's National Priorities List in September 1999 and regulatory authority for the landfill closure was transferred to the state and county.

Under the approval of EPA and Miami-Dade County, the City of North Miami is currently in the process of transforming 193 acres of the former landfill into a mixed-use development project, known as Biscayne Landing. The proposed reuse project will include a mix of residential, commercial, retail and recreation facilities, as well as a

charter school—with full build-out projected by 2021. The developer of the project, Swerdlow Boca Development, will be responsible for the site's remediation as part of an agreement with the City of North Miami.

i) Existing Land Uses and Zoning for the Context Area

MODESTO A. MAIDIQUE

As depicted on Figure 4.1a: Context Area Map the principal land uses adjacent to the campus and extending out a mile radius is primarily low density, single family residential development, much of which occurred in the 1960's and 1970's. Suburban character strip commercial development as well as higher density multifamily residential is clustered along portions of the main roadway arterials in the vicinity of the campus. Arterial streets adjacent to Modesto A. Maidique Campus include Tamiami Trail (SW 8th Street) to the north, SW 107th Avenue to the east and Coral Way (SW 24th Street) and Bird Road (SW 40th Street) to the south.

BISCAYNE BAY CAMPUS

As depicted in Figure 4.3a: Context Area Map, located behind this element write-up, the principal land use type in the context area immediately surrounding Biscayne Bay is open space categorized as Parks and Recreation (Oleta River State Recreation Area) and environmentally protected parks. The latter category includes the extensive wetland area of Oleta River and Biscayne Bay shoreline. In addition, substantial public facilities exist nearby including a City of North Miami sewage treatment plant and portions of the Munisport landfill area that are currently closed. Approximately 193 acres of the former landfill site has been designated for mixed-use development by the City of North Miami. The proposed reuse project, known as Biscayne Landing, will include a mix of residential, commercial, retail and recreation facilities.

Beyond the zone of public open space, extensive single family residential development extends to the south and west. Strip commercial development and multifamily development occurs along the two principal arterials in the context area, Federal Highway and Sunny Isles Boulevard. To the east, across Biscayne Bay, a major regional activity generator, Haulover Park and Marina; as well as the Sunny Isles hotel/motel corridor lines the beachfront.

ENGINEERING CENTER (EC)

The principal land uses adjacent to the site and extending out a mile radius is primarily low density, single family residential development to the south and commercial and industrial use to the north. Strip commercial development and higher density multifamily residential is clustered along SW 107th Avenue and West Flagler Street.

THE WOLFSONIAN

Extensive multi-family residential use surrounds the Wolfsonian buildings. This is a high density urban environment with commercial and retail use along principal

arterials, including Washington Avenue and Collins Avenue.

j) Generalized Land Use Categories

The following land use categories will apply to all FIU campuses. The designations are based on topography, soil conditions, adjacent land uses, existing space utilization and utility locations, proximity to existing and planned multimodal transportation systems, and existing development patterns:

ACADEMIC and RESEARCH USE

This land use designation identifies existing areas on the campus that include buildings with classrooms, faculty and departmental offices, assembly space, exhibit spaces, and library spaces, where academic activities take place.

Indoor Research: This refers to existing areas on the campus designated for research, including laboratories, offices, assembly spaces, exhibit spaces, and library spaces.

Outdoor Research: This land use designation identifies existing outdoor areas on the campus that are used for environmental studies and any research related to outdoor plant and wild life.

MODESTO A. MAIDIQUE

There are eighteen facilities that serve academic functions (see Figure 4.4: Campus Land Use Map):

- Deuxieme Maison
- Viertes Haus
- Green Library
- Owa Ehan
- Chemistry & Physics
- Chemistry & Physics addition
- Engineering and Computer Science
- Ryder Business Building
- Sanford and Dolores Ziff Education Building
- Health And Life Science
- Health And Life Science Phase Two
- School Of Architecture
- Sculpture Building
- Ceramics Building
- Athletics Academic Fitness Center (Dedicated to provide classrooms, tutoring space, and academic support for student-athletes)
- College of Law
- Graduate School of Business (Phase One)
- Social Science Building

In-door Research Facilities:
- Management and Advanced Research Center
- Biology Greenhouse
- Molecular Biology Building (currently under construction)

Out-door Research Use
- Natural Preserve: Environmental Studies has a continuing conservation project at the preserve.
- Heddington Island: Lake on the northwester quadrant of the campus has a small island used for environmental studies

BISCAYNE BAY CAMPUS

There are four major academic facilities and four trailers that serve academic functions (See Figure 4.6: Campus Land Use Map):

- The Library
- Academic One
- Academic Two
- Hospitality Management.
- NM Trailer 1
- NM Trailer 2
- NM Trailer 5
- NM Trailer 7

In-door Research Facilities:
- Ecology Lab
- NM Trailer 21
- Marine Biology Fish Tanks
- Marine Biology Research Center (in final construction phase)

Out-door Research Use
- There are no areas designated for outdoor research on campus.

ENGINEERING CENTER (EC)

This is a mixed-use facility with some academic use. (See mixed-use category under Section 4(1)(l)).

In-door Research: This mixed-use facility includes research use.

Out-door Research: There is no outdoor research on this site.

THE WOLFSONIAN

Museum Headquarters: This is a mixed-use facility with some academic use ((See mixed-use category under Section 4(1)(l)).

Annex Storage Facility: No academic activities take place in this facility

In-door Research: Museum Headquarters and the Annex Storage Facility are mixed-use buildings that are sometimes used for research.

Out-door Research: There is no outdoor research at the Wolfsonian.

SUPPORT USE

This land use designation identifies existing areas on the campus where non-academic administrative offices, student services, and physical plant spaces are concentrated.

MODESTO A. MAIDIQUE

Support facilities include:

- Labor Center,
- Duplicating Center
- Tower (original Tamiami Airport Control Tower)
- The University Health Service Complex
- Campus Support Complex-Shops
- Campus Support Complex-Administration
- UP Information Center
- Exit. Support
- Children's Creative Learning Center

BISCAYNE BAY CAMPUS

Support facilities include:

- Student Health Clinic
- Wellness Center
- Biscayne Bay Campus Information Booth
- Public Safety
- Grounds
- Central Receiving
- PDC Administration

ENGINEERING CENTER (EC)

There is one single story building at the site serving as a support function. (See mixed-use category under Section 4(1)(l)).

THE WOLFSONIAN

Museum Headquarters: This is a mixed-use facility with some support use consisting of administrative offices on the 2nd and 4th floors. (See mixed-use category under Section 4(1)(l)).

Annex Storage Facility: This is a mixed-use facility that is primarily utilized for storage of museum artifacts. (See mixed-use category under Section 4(1)(l)).

RESIDENTIAL USE

This land use designation identifies existing areas on the campus that include student housing and other housing facilities.

MODESTO A. MAIDIQUE

Facilities designated for housing include:

- University Park Apartments/Student Housing: an apartment complex of ten buildings located along the eastern perimeter of Modesto A. Maidique Campus
- Panther Residence Hall: a four-story state of the art building.
- University Towers: This facility is comprised of three sections, North Tower, South Tower, and the West Wing; clustered along the southern edge of campus.
- Everglades Residence Hall: This facility is comprised of three wings.
- Lakeview Residence Hall: Completed in 2006, this two-building facility provides housing and residential life functions.
- Phi gamma Delta Fraternity/Fiji: Fraternity housing
- Pi Kappa Alpha Fraternity: Fraternity housing

Proposed housing facilities include three additional Greek fraternity houses (Sigma Phi Epsilon, Sigma Alpha Mu, and Tau Kappa Epsilon). These projects have been approved and funded.

BISCAYNE BAY CAMPUS

The only housing facility at Biscayne Bay Campus is Bay Vista Housing. This is a four-story apartment style building with five wings. It is located on the northeastern corner of the campus.

ENGINEERING CENTER (EC)

There is no residential housing provided at this site.

THE WOLFSONIAN

There is no residential housing provided at The Wolfsonian.

RECREATION AND OPEN SPACE USES

This land use designation identifies existing areas on the campus that are adequate for active and passive recreation. Active recreation includes sports, athletics, organized sporting events, gymnasiums, and workout facilities. Passive recreation refers to plazas, courtyards, pedestrian malls and other open areas for the passive enjoyment of nature.

MODESTO A. MAIDIQUE

Recreational and open space is primarily found in buffer areas along the northern and western edges of Modesto A. Maidique Campus. Major recreational facilities include:

- Pharmed Arena
- Baseball Stadium.
- FIU Community Stadium
- Recreation Complex
- Recreation Fields
- Women's Softball/Tennis Center

BISCAYNE BAY CAMPUS

Recreational and open space is primarily found along the perimeters of developed areas for Biscayne Bay Campus. They are located north and south of the campus academic core along the Oleta River and Biscayne Bay shoreline and include:

- The Aquatic Center
- Outdoor Recreation Facilities: Tennis courts, basketball court and one multipurpose field.
- Fitness Center: Located inside the Wolfe University Center

A new Fitness Center Building is currently under construction. The project broke ground on April 2005.

ENGINEERING CENTER (EC)

The site offers no organized recreational facilities. The site consists approximately 10 acres of open space for potential use as recreation.

THE WOLFSONIAN

Museum Headquarters: The site does not have any recreation or open spaces.

Annex Storage Facility: The site does not have any recreation or open spaces.

UTILITIES USE

This land use designation refers to areas on campus that provide all the infrastructure necessary to support the University's electrical, storm water, sanitary sewer, potable water, chilled water, steam, natural gas, telecommunication and solid waste systems.

Utility provisions at Modesto A. Maidique Campus, Biscayne Bay Campus, the Engineering Center, and The Wolfsonian are accounted for under the Support Facilities land use designations. Refer to 9.0 General Infrastructure Element and 10.0 Utilities Element for further discussion of campus utilities.

MODESTO A. MAIDIQUE

Utilities Facilities within the campus include:

- Physical Plant
- Plant Support
- Central Utilities

PARKING USE

This land use designation identifies those areas on campus that are appropriate for general parking in surface lots or garage structures.

Existing parking structures at Modesto A. Maidique Campus are accounted for within the Mixed Use category. Surface parking at all three campuses is accounted for amongst other land use categories.

MODESTO A. MAIDIQUE

Existing parking facilities include surface parking areas and four parking garages:

- Gold Parking Garage
- Blue Parking Garage
- Panther Parking Garage
- Red Parking Garage

Surface parking is primarily located along the northern and western edges of the campus core and along the southern perimeter adjacent to Tamiami Park and Miami-Dade Youth Fair and Exposition. Two parking garages (Gold and Blue) and two additional surface parking lots are in the southeastern quadrant of the campus.

BISCAYNE BAY CAMPUS

Parking facilities are comprised of existing surface parking areas west of the academic zone of the campus. Additional surface parking is associated with Kovens Center located south of the campus core.

ENGINEERING CENTER (EC)
Surface parking is provided at the western and eastern portions of the site.

THE WOLFSONIAN
None of the Wolfsonian buildings offer parking facilities. Off-street and municipal parking facilities are available nearby.

CONSERVATION AREAS
This land use designation identifies existing areas on the campus that shall be preserved and managed to protect natural features including topography, soil conditions, archaeological sites, plant and animal species, wildlife habitats, heritage trees and wetlands.

MODESTO A. MAIDIQUE
Modesto A. Maidique Campus is designated as a Wildlife Sanctuary by an agreement between FIU and the Audubon Society and, therefore, vegetative communities that serve as wildlife habitat are protected. However, no areas have been officially designated by the State for conservation. The area known as the "Natural Preserve" has been set aside by the University for environmental studies and natural open space. An environmental inspection conducted in 2001 revealed that most of the land does not contain threatened or endangered fauna or protected wild life.

BISCAYNE BAY CAMPUS
There are a number of habitat enhancement/mitigation projects that have been or will be completed along the shoreline of the Oleta River. Additional mitigation work is in progress on Sandspur Island, an island immediately south of Biscayne Bay Campus.

The estuary at the north end of Biscayne Bay Campus has been designated as the Biscayne Bay Aquatic Preserve. The planting of mangroves at the southwestern end of campus was required as compensatory mitigation for the trimming of mangroves adjacent to Kovens Center. This mitigation site at the southwestern end of campus should be designated as a potential mitigation bank to prevent conflicts with future developments in this area.

ENGINEERING CENTER (EC)
No lands are designated for conservation.

THE WOLFSONIAN
No lands are designated for conservation

COMMUNITY INTERFACE USE
This land use designation identifies those areas within the campus that are operated

by non-FIU organizations,

MODESTO A. MAIDIQUE

Existing land use areas designated as Other Public Facilities for Modesto A. Maidique Campus include:

- The Hurricane Center (NOAA)
- Carlos Findlay Elementary School

BISCAYNE BAY CAMPUS

No land use areas have been designated as Other Public facilities for Biscayne Bay Campus.

ENGINEERING CENTER (EC)

No land use areas have been designated as Other Public facilities at this site.

k) Additional Land Use Categories

MIXED-USE FACILITIES

Mixed-Use has been added as an existing land use designation. This category identifies buildings within the campus that comprise more than one use.

l) Acreage and General Range of Density or Intensity of Use

The approximate acreage for each existing designated land use for University-owned property for Modesto A. Maidique and Biscayne Bay Campus is shown in Table 4.2.

Table 4.2 Associated Land Use Acreage by Campus

MODESTO A. MAIDIQUE (Combined with EC)

NAME	Acre	% of Total Acres
Academic	48.07	13%
Community Interface	6.76	2%
Conservation	13.25	4%
Mixed Use	22.31	6%
Other Public	12.23	3%
Parking	62.8	18%
Recreation and Open Space	112.55	31%
Research	2.77	1%
Residential	41.27	12%
Support	19.95	6%
Undeveloped	13.67	4%
Utilities	2.06	1%

MODESTO A. MAIDIQUE (Excluding EC)

NAME	Acre	% of Total Acres
Academic	48.07	14%
Community Interface	6.76	2%
Conservation	13.25	4%
Mixed Use	19.61	5%
Other Public Facilities	12.23	4%
Parking	54.6	16%
Recreation and Open Space	97.12	28%
Research	2.41	1%
Residential	41.27	13%
Support	18.87	6%
Undeveloped	7.87	2%
Utilities	2.06	1%

ENGINEERING CENTER

NAME	Acre	% of Total Acres
Academic	0	14%
Community Interface	0	2%
Conservation	0	4%
Mixed Use	2.7	5%
Other Public	0	4%
Parking	8.2	16%
Recreation and Open Space	15.43	28%
Research	0.36	1%
Residential	0	13%
Support	1.08	6%
Undeveloped	5.8	2%
Utilities	0	1%

BISCAYNE BAY CAMPUS

NAME	ACRE	% OF TOTAL ACRES
Academic	8.52	5%
Community Interface	2.86	2%
Conservation	19.54	11%
Mixed Use	2.8	3%
Other Public	0	0%
Parking	23.99	13%
Recreation and Open Space	64.56	36%
Research	1.09	1%
Residential	5.25	3%
Support	10.27	6%
Undeveloped	40.50	22%
Utilities	0.00	0%

Source: FIU, 2004 (Headcount for Fall of 2004: 35,002).

(2) ANALYSIS REQUIREMENTS

a) Land Required to Accommodate the Planned Future Enrollment

MODESTO A. MAIDIQUE

The categories of land use and the estimated gross acreage for each category are shown in Table 4.3.

Table 4.3 Projected Land Requirements 2015– MODESTO A. MAIDIQUE

MODESTO A. MAIDIQUE (Combined with EC)

NAME	Acre	% of Total Acres
Academic & Research	70.28	22%
Community Interface	8.48	3%
Conservation	0	0
Mixed Use	118.89	38%
Parking	7.78	3%
Recreation and Open Space	72.98	23%
Residential	24.63	8%
Support	10.33	3%

MODESTO A. MAIDIQUE (Excluding EC)

NAME	Acre	% of Total Acres
Academic & Research	50.29	18%
Community Interface	8.48	3%
Conservation	0	0
Mixed Use	114.85	41%
Parking	7.78	3%
Recreation and Open Space	69.43	24%
Residential	24.62	9%
Support	6.88	2%

ENGINEERING CENTER

NAME	Acre	% of Total Acres
Academic & Research	19.99	65%
Community Interface	0	0
Conservation	0	0
Mixed Use	4.04	13%
Parking	0	0
Recreation and Open Space	3.54	11%
Residential	0	0
Support	3.45	11%

BISCAYNE BAY CAMPUS

The categories of land use and the estimated gross acreage for each category are shown in Table 4.4.

Table 4.4 Projected Land Requirements 2015– BISCAYNE BAY CAMPUS

NAME	ACRE	% OF TOTAL ACRES
Academic & Research	39.52	24%
Community Interface	0	0
Conservation	28.69	18%
Mixed Use	8.02	5%
Parking	0	0
Recreation and Open Space	56.90	35%
Residential	23.57	15%
Support	5.66	3%

Academic and Support facility space deficits, are documented in 5.0 Academic Facilities Element and 6.0 Support Facilities Element. Calculated deficiencies use standard ratios developed by THE FLORIDA BOARD OF EDUCATION, DIVISION OF COLLEGES AND UNIVERSITIES in the most current FIU Educational Plant Survey and the enrollment projections. Calculations for Academic gross building square footage needs include a 1.6 multiplier. The projected growth at FIU and the academic building deficiencies that currently exist, require that space needs be addressed with new facilities rather that the renovation of existing facilities.

b) Projected Future Space and Building Needs for Academic/Research and Support Facilities

MODESTO A. MAIDIQUE & ENGINEERING CENTER

Projections for future net academic/research space, support space and building area needs for Modesto A. Maidique and the Engineering Center are depicted in Table 4.5. Projections represent university wide calculated deficiencies of the 5.0 Academic Facilities Element and the 6.0 Support Facilities element, factored, the proportion of total FTE students.

BISCAYNE BAY CAMPUS

Projections for future net academic/research space, support space and building area needs for Biscayne Bay Campus are depicted in Table 4.6. Projections represent university wide calculated of the 5.0 Academic Facilities Element and Support Facilities Element, factored the proportion of total FTE students attending Biscayne Bay Campus.

d) Suitability of Existing Vacant and Undeveloped Land on the University Campus

MODESTO A. MAIDIQUE

Campus expansion will need to occur within existing surface parking areas and intensification of the campus core. Refer to 13.0 Conservation Element for further information concerning the suitability of existing vacant land.

Future campus expansion campus will not be adversely impacted by existing soils, topography natural resources and historic and archaeological resources.

BISCAYNE BAY CAMPUS

Gross vacant and undeveloped land at Biscayne Bay Campus is approximately 40.5 acres. Refer to 13.0 Conservation Element for further information concerning the suitability of gross undeveloped land.

Future campus expansion campus will not be adversely impacted by existing soils, topography, and historic and archaeological resources. There is a an environmental impact buffer along Biscayne Bay, an enhanced mangrove wetland area in front of Kovens Center a mitigation zone at the southwest corner of the property that are not available for campus expansion.

e) Opportunities for Redevelopment and for Elimination of Uses

Redevelopment at Modesto A. Maidique Campus and the Wolfsonian are anticipated as a need during this planning period. There are some opportunities to consider the redevelopment of existing parking and open space uses at Modesto A. Maidique for future campus development.

At Biscayne Bay there are some opportunities for campus expansion within the open space between the campus core and the Kovens Center, north of the existing academic buildings and west of Academic Two and the Kovens Center.

At the Engineering Center, there is room for further expansion in the open space that surrounds the site.

Elimination of inconsistent uses is not anticipated as a need during this planning period

f) Planned Use of University Property Consistent with the Adopted Conceptual State Lands Management Plan

No inconsistencies with the planned uses have been identified or noted to fate at Modesto A. Maidique Campus, Biscayne Bay Campus, and other University Sites (the Engineering Center and the Wolfsonian).

g) Additional Land Required to Meet Future Needs

1. The categories of land use and their densities or intensities of use;
2. The estimated gross acreage for each category; and
1. A description of the methodology used. The methodology should be based on floor area ratio (FAR) or other acceptable means of establishing the relationship between land requirements and building areas.

Modesto A. Maidique Campus does not have sufficient land area to expand beyond what is currently planned. This campus will be completely built-out within the next five years. Potential expansion is possible at the Engineering Center and the Biscayne Bay Campus.

h) Assessment of Surplus University Property

Due to limited land resources, it is not recommended that any portion of property be declared surplus for release as surplus by FIU or the Florida Board of Education, Division of Colleges and Universities.

i) Additional University Land and Context Area Analysis

1. Existing land use
2. Property values
3. Constraints that may limit future development
4. Future proposed land use
5. Building conditions (if appropriate)

If additional land is necessary for future growth, the University will coordinate with local governmental agencies and private developers for the acquisition and development of lands. The most immediate need for land will be at Modesto A. Maidique Campus Campus, in the form of off-campus student housing and recreational fields. However, the increasing costs of real estate may make the acquisition of land for future expansion a financial challenge.

Additional land will not be necessary for future development of Biscayne Bay Campus, the Engineering Center or The Wolfsonian.

j) Alternatives to Additional Land Acquisition

MODESTO A. MAIDIQUE

There is sufficient available land to accommodate projected expansion by creating a compact development pattern and increasing building heights. No other mechanisms are being currently considered for anticipated future campus growth.

BISCAYNE BAY CAMPUS

Additional land will not be necessary for future development of the Biscayne Bay Campus. Future campus expansion will focus on creating a link between the campus core and Kovens Center with planned housing and the Marine Biology Building. There is substantial vacant land available for campus expansion beyond this planning period for future projected campus enrollment. No other alternatives are currently considered necessary to anticipated future campus growth.

ENGINEERING CENTER

Additional land will not be necessary for future development

THE WOLFSONIAN

Additional land will not be necessary for future development

k) Constraints to Future Land Use Development

MODESTO A. MAIDIQUE

Modesto A. Maidique contains relatively few naturally vegetated areas. The Natural Preserve represents the most valuable natural feature of Modesto A. Maidique with its botanicals. However, as part of the RS&H campus master plan update, on June 20, 2001, an inspection revealed that there were no threatened or endangered fauna or nests in the Preserve. Given these findings, future campus expansion will consider retention of the most sensitive portions of the preserve for conservation and botanical study.

Potential impacts for surface waters, wildlife habitat, airport restrictions, utility requirements and easements and stormwater management all must be considered for all future campus expansion, but at this time there appears to be no major constraints that would limit future land use development. There are no areas on campus identified by the host community comprehensive plan to be developed for a particular land use.

There are relatively few wetland areas on site. Potential wetland areas include lake littoral zones, low lawn areas and a portion of the preserve. No jurisdictional determination has been done for the campus. Campus expansion without a jurisdictional determination might result in need for mitigation or restoration that may not be necessary with prior jurisdictional determination. There are no floodplains on campus or within the context area. The campus itself is designated as a hurricane evacuation site for Monroe County.

BISCAYNE BAY CAMPUS

There are a number of areas with sensitive vegetation that must not be disturbed by planned campus expansion. The mangrove forests on Biscayne Bay Campus are jurisdictional wetlands. An environmentally sensitive site with mangroves exists along the shores of the Oleta River and Biscayne Bay. In addition a mangrove mitigation site has been planted at the southeastern portion of the campus. An additional existing enhanced mangrove area is located immediately west of Kovens Center.

The principal concern regarding potential surface water and development conflicts involves the need to ensure that development of the campus does not negatively impact the habitat of the West Indian manatee. The entire Biscayne Bay Campus is within the 100-year flood plain and is characterized as a special flood hazard area. Potential conflicts regarding floodplains are primarily concerned with flooding of the campus and flood protection for buildings and structures. Building design should respond to state-of-the-art data and modeling, not to out-of-date studies.

Potential impacts wildlife habitat, airport restrictions, utility requirements and easements and stormwater management all must be considered for all future campus expansion, but at this time there appears to be no major constraints that would limit future land use development. There are no areas on campus identified by the host community comprehensive plan to be developed for a particular land use.

l) Off-campus Constraints to Future Land Use Development

Based on utility conditions (9.0 Infrastructure Element) and (10.0 Utilities Element) and traffic capacities (11.0 Transportation Element) within the context areas of both Modesto A. Maidique and Biscayne Bay Campus potential off-campus constraints on University development is summarized below.

MODESTO A. MAIDIQUE

Utility Constraints

Sanitary Sewer – The Miami-Dade County Water and Sewer Department (WASD) is responsible for processing waste water generated by Modesto A. Maidique Campus. According to Miami-Dade County, the campus is served by the Central District Waste Water Treatment Plant. The capacity for the Central District Plant is 143.0 MGD. The average flow for the plant in 2004 was 113.1 or 79 percent of the design capacity. Infiltration and Inflow improvements have helped to reduce the average flow of the regional system.[2] However, these improvements may not be sufficient to sustain the projected demand for service that will be generated by the

2 Initial Recommendations: October 2004 Applications to Amend the Comprehensive Development Master Plan for Miami-Dade County. March 30,2005

expected development growth in Miami-Dade. As a result, the County is evaluating development orders that generate additional wastewater flows on a case by case basis. Plans to increase capacity are also being considered. The major limitation to the sewage collection system on campus is the depth of the gravity sewer mains and pump station that affects service area.

Solid Waste - Through agreements with Miami-Dade County solid waste generated at Modesto A. Maidique Campus is disposed of at the Miami-Dade County Resource Recovery Facility by a private hauler. Although no proportional capacity is assigned to FIU or private collection firms the resource recovery plant has adequate capacity to handle its projected demands through the 2015 planning horizon.

Traffic Capacity - The existing road system in the context area consists of three major arterial roads, SW.107th Avenue, Coral Way, and S.W 8th Street. These arterials roads have an LOS "D". The campus contains 2 collector roads (S.W 16th Street and S.W 112th Avenue) with an LOS of "C" or better. Due to the growing congestion on the arterial roads surrounding the University, traffic circulation in the context area is becoming a constraint. To address this problem, the University has implemented policies to encourage alternative modes of transportation and a pedestrian-friendly environment, including the creation of a shuttle bus service in between campuses.

Potable Water - There is sufficient water treatment capacity at the Alexander Orr Water Treatment Plant for future development at Modesto A. Maidique Campus. However, the County should seek an increase in the permitted average day withdrawal allocation and maximum day allocation for the wellfield

FIU will follow concurrency regulations to assure that adequate level of service will be available for any proposed development. Pursuant to new State regulations, the University consults with WASD prior to approval of building permits to assure that adequate water supplies will be available to serve the proposed development no later than the issuance of a certificate of occupancy.

The physical condition of the water main distribution system is adequate. Ongoing improvements to the onsite primary distribution system will be needed. This includes continuing to link the systems and eliminating dead end systems. Pressure test shall be performed to assure the distribution systems meet all of the required potable water demands.

Stormwater Management - The capacities of the existing swale and lake system are sufficient for the present development. The system capacity

analysis shows that the campus has sufficient area to provide additional lake area and/or exfiltration trench for future development. There are no offsite discharge connections as all rainfall is contained onsite. Currently, there is no stormwater master drainage plan in place. In the future, it is recommended for any new developments to prepare a pre-post analysis of the entire site to evaluate the 100-year flood stages.

Hot and Chilled Water - Florida International University has operation responsibility for the hot water and chilled water system. With the completion of the Phase II Central Plant Expansion the transport capacity is adequate for the addition of three new buildings (Research & Development Facility, Museum, and Academic Building) with one pump redundant for standby. There are plans to build a satellite chiller plan in order to serve the needs of other future development.

Electrical Power - Florida Power and Light provides services to Modesto A. Maidique Campus. The electrical transmission and distribution system provide the campus with unmatched service reliability against possible drownouts. The current electrical distribution system is adequate for the existing and short-term program improvements.

BISCAYNE BAY CAMPUS

Utility Constraints

Sanitary Sewer – Sewage flow for this campus is processed and treated at North District Wastewater and Treatment Plant (NDWTP) located on the corner of Biscayne Boulevard and N.W. 151st Street. The sanitary sewer system should be adequate to handle future development of Biscayne Bay Campus. Modifications to the existing system may be necessary due to the site plan and/or system configuration. Due to the age of the system, infiltration and pump station conditions may need to be evaluated. However, the system is owned and maintained by the City of North Miami. Refer to Table 9.7 in 9.0 General Infrastructure Element. While the present treatment capacities of the NRWTP exceed demand, the pump station operating time criteria may affect the issuance of a water meter.

Solid Waste - Through agreements with Miami-Dade County solid waste generated at Biscayne Bay Campus is disposed of at the Miami-Dade County Resource Recovery Facility by a private hauler. Although no proportional capacity is assigned to FIU or private collection firms the resource recovery plant has adequate capacity to handle its projected demands through the 2015 planning horizon.

Potable Water - There is sufficient treatment capacity at the City's Norman Winson Water Plant for future development at Biscayne Bay Campus. In addition, their agreement with WASAD would further provide

capacity if necessary. The onsite primary distribution system is sufficient for future development; however, new secondary systems will be required. Also, some existing secondary systems are presently dead-end and need to become a "looped" system. Currently, the physical condition of the water main distribution system is adequate. Pressure test shall be performed to assure the distribution systems meet all of the required potable water demands.

Stormwater Management - The capacities of the existing swale, exfiltration trench, and lake system are sufficient for the runoff from the present development. The existing drainage pipes and exfiltration trench should not have excess capacity as they were probably designed for a specific drainage area. In the future, it is recommended for any new developments to prepare a pre-post analysis of the entire site to evaluate the 100-year flood stages.

Hot and Chilled Water - Florida International University has operation responsibility for the hot water and chilled water system. With the implementation of the 1995 Chilled Water Study recommendations, the system capacity of 2,880 tons is adequate.

Electrical Power - Florida Power and Light provides services to Biscayne Bay Campus. The current electrical distribution system is adequate for the existing and short-term program improvements.

Traffic Capacity - At present Bay Vista Boulevard north of the campus is operating at an acceptable Level of Service (LOS) "C" or better during the P.M. peak hour in the context area, while Bay Vista Boulevard east of the campus is operating at “D” LOS (Refer to 11.0 Transportation Element). Future traffic projections are expected to remain adequate (LOS "C" or better) through the 2000-2010 period with the exception of Bay Vista Boulevard north of the main campus entrance (Refer to 11.0 Transportation Element). However, with limited physical improvements or transportation System Management Techniques at this one constrained location, traffic capacity constraints at Biscayne Bay are considered minor.

m) Host Community Comprehensive Plans Related to Future Land Use Development

University Land Use Element Goals, Objectives and Policies are coordinated with the comprehensive plans of Miami-Dade and affected local governments.

MODESTO A. MAIDIQUE CAMPUS
Pertinent Local Government Comprehensive Plan:
Comprehensive Development Master Plan, Miami-Dade County, Florida

BISCAYNE BAY CAMPUS
Pertinent Local Government Comprehensive Plan:
City of North Miami Comprehensive Plan, Volume One : Adopted Documents

The Biscayne Bay Campus of FIU is surrounded on three sides by the City of North Miami and on the fourth by water. While the City's limits end at the campus edge, the goals, objectives and policies of its Land Use Element were reviewed as it is the closest coordinating municipality to the campus.

ENGINEERING CENTER
Pertinent Local Government Comprehensive Plan:
Comprehensive Development Master Plan, Miami-Dade County, Florida

THE WOLFSONIAN
Pertinent Local Government Comprehensive Plan:
City of Miami Beach Comprehensive Development Master Plan, Miami Beach, Florida

Intensity Standards (Floor Area Ratio)*

MAX. F.A.R. = Gross Square Footage of all structures on a site**
Gross Square Footage of the lot

Academic and Research	2.05	
Support	1.20	
Housing	530 beds/acre	
Athletics / Recreation / Open Space***	.10	or 10%(impervious surface)
Community	1.50	
Parking	.40	or 40% (impervious surface)
Mixed Use	2.25	

* Floor Area Ratios apply only to habitable academic, support, residential and research uses. Parking structures are excluded from F.A.R. calculations. Residential is defined by beds per acre.

** The height of a proposed building will be evaluated on a project by project basis. The only area where strict height restrictions will be observed is the Balloon Release Area adjacent to the Hurricane Center.

**** No construction is anticipated in these areas except for minimal structures and improvements needed to ensure safe access and essential support functions.